

Appl. No. 09/800,645
Amdt. dated October 27, 2006
Reply to Office Action of August 2, 2006

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Amendments to the Claims:

This listing of claims is presented for the convenience of the Examiner. No amendments are being made by this Response.

Listing of Claims:

1. (Previously Presented) A method for preparing chemically treated pulp fiber comprising:
 - a) creating a fiber slurry comprising process water and pulp fibers;
 - b) transporting said fiber slurry to a web-forming apparatus of a pulp sheet machine and forming a wet fibrous web;
 - c) drying said wet fibrous web to a predetermined consistency thereby forming a dried fibrous web;
 - d) treating said dried fibrous web with an applied amount of a chemical additive thereby forming a chemically treated dried fibrous web containing chemically treated pulp fibers; and
 - (e) dispersing the chemically treated pulp fibers of the chemically treated dried fibrous web in water and draining the water from the chemically treated pulp fibers, wherein said chemically treated pulp fibers retain from between about 10 to about 100 percent of the applied amount of said chemical additive.
2. (Previously Presented) The method of Claim 1 wherein the chemically treated fibers are dispersed in water on a paper machine.
3. (Previously Presented) The method of Claim 1, wherein said dried chemically treated fibrous web includes a z-direction gradient of said chemical additive.
4. (Previously Presented) The method of Claim 1, further comprising dewatering said wet fibrous web thereby forming a dewatered fibrous web.

Appl. No. 09/800,645
Amdt. dated October 27, 2006
Reply to Office Action of August 2, 2006

5. (Previously Presented) The method of Claim 4, further comprising drying said dewatered fibrous web thereby forming a dried fibrous web.
6. (Previously Presented) The method of Claim 5, wherein said chemically treated dewatered fibrous web includes a z-direction gradient of said chemical additive.
7. Canceled
8. (Previously Presented) The method of Claim 1 or 2, wherein said chemical additive is selected from the group comprising softening agents, dry strength agents, wet strength agents, opacifying agents, dyes, debonding agents, adsorbency agents, sizing agents, optical brighteners, chemical tracers, and mixtures thereof.
9. (Original) The method of Claim 8, wherein said softener is selected from the group consisting of quaternary ammonium compounds, quaternized protein compounds, phospholipids, silicone quaternaries, quaternized, hydrolyzed wheat protein/dimethicone phosphocopolyol copolymer, organoreactive polysiloxanes, polyhydroxy compounds, and silicone glycols.
10. (Previously Presented) The method of Claim 1 or 2, wherein said chemical additive is a softener.
11. (Previously Presented) The method of Claim 1 or 2, wherein said chemical additive is an absorbency agent.
12. (Previously Presented) The method of Claim 1 or 2, wherein said chemical additive is a wet strength agent.
13. (Previously Presented) The method of Claim 1 or 2, wherein said chemical additive is a dry strength agent.

Appl. No. 09/800,645
Amdt. dated October 27, 2006
Reply to Office Action of August 2, 2006

14. (Original) The method of Claim 1, further comprising creating a chemically treated pulp fiber slurry by redispersing said chemically treated dried fibrous web in water.
15. (Original) The method of Claim 1, wherein said chemical additive is applied to said dried fibrous web in an amount of at least about 0.1 kilograms per metric ton or greater.
16. (Original) The method of Claim 1, wherein said dried fibrous web has a consistency ranging from about 65 percent to about 100 percent.
17. (Original) The method of Claim 1, wherein said dried fibrous web has a consistency ranging from about 85 percent to about 95 percent.
18. (Original) The method of Claim 1, wherein sufficient residence time is provided after said chemical additive is applied to said dried fibrous web to allow for retention of said chemical additive by said pulp fiber of said dried fibrous web.
19. (Original) The method of Claim 1, further comprising forming a paper or tissue product from said chemically treated dried fibrous web.
- 20.-21. Canceled

Appl. No. 09/800,645

Amdt. dated October 27, 2006

Reply to Office Action of August 2, 2006

22. (Previously Presented) A method for applying a chemical additive to pulp fiber, said method comprising:

- a) mixing pulp fibers with process water to form a fiber slurry;
- b) transporting said fiber slurry to a web-forming apparatus of a pulp sheet machine and forming a wet fibrous web;
- c) dewatering said wet fibrous web to a predetermined consistency thereby forming a dewatered fibrous web;
- d) applying an amount of a chemical additive to said dewatered fibrous web thereby forming a chemically treated dewatered fibrous web of chemically treated pulp fibers; and
- (e) dispersing the chemically treated pulp fibers of the chemically treated dewatered fibrous web in water and draining the water from the chemically treated pulp fibers, wherein said chemically treated pulp fibers retain from between about 10 to about 100 percent of the applied amount of said chemical additive.

23. (Previously Presented) The method of Claim 22 wherein the chemically treated pulp fibers are dispersed in water on a paper machine.

24. (Original) The method of Claim 22, wherein said chemically treated dried fibrous web includes a gradient of said chemical additive.

25. (Original) The method of Claim 22, further comprising drying said chemically treated dewatered fibrous web to a predetermined consistency thereby forming a chemically treated dried fibrous web.

26. (Original) The method of Claim 25, wherein said chemically treated dewatered fibrous web includes a gradient of said chemical additive.

Appl. No. 09/800,645

Amdt. dated October 27, 2006

Reply to Office Action of August 2, 2006

27. (Original) The method of Claim 25, further comprising transporting said chemically treated dried fibrous web to a paper machine and mixing said dried fibrous web with water thereby forming a chemically treated pulp fiber slurry, wherein said chemically treated pulp slurry containing chemically treated pulp fibers having said chemical additive retained thereby.

28. (Original) The method of Claim 27, further comprising transporting said chemically treated pulp fiber slurry through said paper machine to form a finished paper or tissue product having enhanced quality due to the retention of said chemical additive by said chemically treated pulp fibers.

29. (Original) The method of Claim 27, wherein the amount of said chemical additive retained by said chemically treated pulp fibers is about 0.1 kilogram per metric ton or greater, and the amount of unretained said chemical additive in said water is between 0 and about 50 percent of the applied amount of said chemical additive retained by said chemically treated dewatered fibrous web when said chemically treated pulp fibers are redispersed in water.

30. (Original) The method of Claim 22, wherein the amount of said chemical additive applied to said dewatered fibrous web is about 1 kilograms per metric ton or greater.

31. (Original) The method of Claim 22, wherein the amount of said chemical additive applied to said dewatered fibrous web is about 3 kilograms per metric ton or greater.

32. (Previously Presented) The method of Claim 22, wherein the amount of said chemical additive applied to said dewatered fibrous web is from about 0.1 to about 5 kilograms per metric ton.

33. (Original) The method of Claim 22, wherein said chemical additive is selected from the group comprising softening agents, dry strength agents, wet strength agents, opacifying agents, dyes, debonding agents, absorbency agents, sizing agents, optical brighteners, chemical tracers, and mixtures thereof.

Appl. No. 09/800,645
Amdt. dated October 27, 2006
Reply to Office Action of August 2, 2006

34.-76. Canceled

77. (Previously Presented) The method of Claim 1 wherein the amount of said chemical additive applied to said dried fibrous web is from about 0.1 to about 5 kilograms per metric ton.

78. (Previously Presented) The method of claim 1 wherein the amount of said chemical additive applied to said dried fibrous web is from about 1.5 to about 7.4 kilograms per metric ton.

79. (Previously Presented) The method of Claim 22 wherein the amount of said chemical additive applied to said dried fibrous web is from about 1.5 to about 7.4 kilograms per metric ton.